

LOW DIELECTRIC CONSTANT MATERIAL REINFORCEMENT FOR IMPROVED
ELECTROMIGRATION RELIABILITY

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ABSTRACT

A reinforced semiconductor interconnect structure,
having the following components:

A first metal interconnect disposed in a first material, the first metal interconnect having a line portion and at least one via portion, an anode section and a cathode section, the via portion of the first metal interconnect located in the anode section, the line portion of the first metal interconnect having a top, bottom and terminus side, wherein at least a part of the bottom side of the line portion of the first metal interconnect in contact with the first dielectric;

a first reinforcement disposed in the first material, the first reinforcement in contact with at least the bottom side of the first metal interconnect, the first reinforcement comprising a second material, the second material being electrically nonconductive; and wherein the

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second material has a greater mechanical rigidity than the first material.

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